

What is claimed is:

1. An electronic device testing assembly comprising:
  - a printed circuit board (PCB) module;
  - a supporting plate for protecting the PCB module;
  - a test connector mounted on the PCB module;
  - an actuation system for actuating the test connector to move from a first position to a second position;
  - a supporting member mounted on the PCB module and engaged with the actuation system;
  - an integrated circuit (IC) package received in the test connector;
  - a heat sink mounted on the IC package; and
  - a pressing member engaged with the supporting member.
2. The assembly as described in claim 1, further comprising a plurality of coil springs received between the heat sink and the pressing member.
3. The assembly as described in claim 1, wherein the PCB module is mounted on the supporting plate, and defines a plurality of mounting holes.
4. The assembly as described in claim 3, wherein the supporting plate defines a plurality of threaded holes corresponding to the mounting holes of the PCB module respectively.
5. The assembly as described in claim 1, wherein the supporting member comprises a frame and a plurality of columns for supporting the frame, each of the columns defining a through hole.
6. The assembly as described in claim 5, wherein the frame defines an opening in a center thereof, a pair of opposite channels next to the opening, a plurality of stepped holes corresponding to the mounting holes of the PCB module respectively, and a pair of spaced threaded holes in each of connection walls between the opening and the channels, a pair of receiving holes in opposite inner lateral sidewalls thereof at opposite sides of the opening in communication with the corresponding channels.

7. The assembly as described in claim 6, wherein the actuation system comprises a pair of first cams received in the channels of the frame respectively, a pair of second cams engaged with the heat sink, a pair of spindles respectively received in the receiving holes of the frame, and an actuation lever connected between the first cams.

8. The assembly as described in claim 7, wherein each of the spindles is integrally formed with a corresponding one of the second cams as a single piece, and each of the first cams is mount to the corresponding spindle.

9. The assembly as described in claim 1, wherein the heat sink is received in the opening of the frame, and comprises a plurality of fins and a connection portion.

10. The assembly as described in claim 9, wherein the connection portion of the heat sink defines a plurality of blind holes for receiving the coil springs respectively.

11. The assembly as described in claim 1, wherein the pressing member is generally "I"-shaped, and comprises a pair of end portions each having a pair of spaced through holes corresponding to the threaded holes of the frame respectively, and a middle portion interconnecting the end portions.

12. A connector assembly for burn-in testing of an integrated circuit (IC) package, the connector assembly comprising:

- a test connector comprising a base with a plurality of terminals therein, a cover movably mounted on the base, a lid engaged with the base, and a pair of operating members engaged with the base and the cover;

- an actuation system for actuating the lid of the test connector to move upwardly and downwardly; and

- a supporting member engaged with the actuation system; wherein

- when the actuation system is oriented at a first position, the lid is located in an upper limit position with the cover in an open position in which leads of the IC package do not contact the terminals in the base, while when the actuation system is rotated to a second position, the lid is moved

downwardly to a lower limit position with the cover being moved to a closed position in which the IC package is mechanically and electrically connected to the terminals in the base.

13. The connector assembly as described in claim 12, wherein the actuation system comprises a pair of first cams, a pair of second cams each having a circular portion and a planar portion, an actuation lever having a pair of first lever arms and a second lever arm interconnecting the first lever arms, and a pair of spindles.

14. The connector assembly as described in claim 13, wherein each of the spindles is integrally formed with a corresponding one of the second cams as a single piece.

15. The connector assembly as described in claim 14, wherein each of the first cams is integrally formed with a corresponding one of the first lever arms as a single piece, a width of the first lever arm being equal to a width of the first cam.

16. The connector assembly as described in claim 15, wherein each of the first cams has a recessed portion near the first lever arm, the recessed portion defining an axle hole in a center thereof.

17. The connector assembly as described in claim 16, wherein the spindle defines a groove in one end thereof, and has a planar portion formed along circumferential periphery thereof.

18. The connector assembly as described in claim 17, wherein the first cam is mounted to the spindle through the axle hole of the first cam, and a fastener is received in the groove of the spindle for preventing the corresponding first cam from disconnecting from the spindle.

19. The connector assembly as described in claim 12, wherein the supporting member comprises a frame and a plurality of columns for supporting the frame, each of the columns defining a through hole.

20. The connector assembly as described in claim 19, wherein the frame defines an opening in a center thereof, a pair of opposite channels next to the

opening, a plurality of stepped holes corresponding to the through holes of the columns respectively, and a pair of receiving holes for receiving the spindles of the actuation system.

21. The connector assembly as described in claim 20, wherein the first cams of the actuation system are received in the corresponding the channels of the frame, and the second cams are received in the opening of the frame.

22. The connector assembly as described in claim 21, wherein when the actuation system is located in the first position, the circular portions of the second cams abut against a heat sink, while when the actuation system is located in the second position, the planar portions of the second cams abut against the heat sink.

23. The connector assembly as described in claim 22, wherein a pressing member is mounted on the supporting member, and a plurality of coil springs is positioned between the heat sink and the pressing member.

24. The connector assembly as described in claim 23, wherein when the actuation system is located in the first position, the heat sink is disconnected from the IC package, while when the actuation system is located in the second position, the heat sink abuts against the IC package.

25. An actuation mechanism of a test connector mounted on a printed circuit board (PCB) module, the actuation mechanism comprising:

a supporting member mounted on the PCB module, the supporting member comprising a frame and a plurality of columns for supporting the frame; and

an actuation system engaged with the supporting member, the actuation system comprising a pair of first cams, a pair of second cams, a pair of spindles engaged with the second cams, and an actuation lever engaged with the first cams.

26. The actuation mechanism described in the claim 25, wherein each of the spindles is integrally formed with a corresponding one of the second cams are as a single piece.

27. The actuation mechanism described in the claim 26, wherein the actuation lever comprises a pair of first lever arms and a second lever arm interconnecting the first lever arms.

28. The actuation mechanism described in the claim 27, wherein each of the first cams is integrally formed with a corresponding one of the first lever arms as a single piece, a width of the first lever arm being equal to a width of the first cam.

29. The actuation mechanism described in the claim 28, wherein the first cam is substantially circular, and has a recessed portion near the first lever arm.

30. The actuation mechanism as described in claim 29, wherein an axle hole is defined in a center of the recessed portion of the first cam for mounting the first cam to the spindle.

31. The actuation mechanism as described in claim 30, wherein the spindle defines a groove in one end thereof and has a planar portion, a fastener being received in the groove for preventing the first cam from disengaging from the spindle.

32. The actuation mechanism as described in claim 31, wherein each of the second cams comprises a circular portion and a planar portion.

33. The actuation mechanism as described in claim 25, wherein the frame defines an opening in a center thereof, a pair of opposite channels next to the opening, and a plurality of stepped holes arranged in a rectangular formation.

34. The actuation mechanism as described in claim 33, wherein a pair of receiving holes is defined in opposite inner lateral sidewalls of the frame at opposite sides of the opening of the frame, the receiving holes being in communication with the corresponding channels.

35. The actuation mechanism as described in claim 34, wherein the spindles of the actuation system are received in the receiving holes of the frame, and the first cams of the actuation system are received in the channels

of the frame.

36. The actuation mechanism as described in claim 35, wherein an IC package is received in the test connector, and a heat sink is received in the opening of the frame and mounted on the IC package.

37. The actuation mechanism as described in claim 36, wherein a pressing member is mounted on the supporting member, and a plurality of coil springs is located between the pressing member and the heat sink.

38. The actuation mechanism as described in claim 37, wherein when the actuation system is oriented at a first position, the circular portions of the second cams abut against the heat sink and the heat sink is disconnected from the IC package, while when the actuation system is rotated at a second position, the planar portions of the second cams abut against the heat sink and the heat sink is in contact with the IC package.

39. An electrical device testing assembly comprising:

a printed circuit board;

a test connector located on the printed circuit board, said test connector including a base with a cover moveably mounted thereupon;

an electronic package installed upon the test connector;

a heat sink located above the electronic package;

a supporting member located on and being immovable relative to the printed circuit board; and

an actuation system moveably mounted to the supporting member;  
wherein

said actuation system includes first and second cams respectively actuating the cover to move for electrical engagement between the electronic package and the test connector, and the heat sink to move for thermal contact with the electronic package via movement of the actuation system relative to the supporting member.

40. The assembly as described in claim 39, wherein said test connector further includes a lid vertically moveable for actuating said cover to move,



and said actuation system engages said lid.

41. The assembly as described in claim 39, further including biasing means to urge said heat sink toward the electronic package.

42. An electrical device test assembly comprising:

a printed circuit board;

a test connector located on the printed circuit board, said test connector including a base with a cover horizontally moveably mounted thereupon, and a vertically moveable lid actuating said cover to horizontally move;

an electronic package installed upon the test connector;

a supporting member located on and being immovable relative to the printed circuit board; and

an actuation system moveably mounted to the supporting member; wherein

said actuation system includes a cam, and by rotation of the actuation system, said cam actuates the lid to move vertically, thus resulting in horizontal movement of the cover relative to the base consequently.

43. An electrical device testing assembly comprising:

a printed circuit board;

a test connector located on the printed circuit board, said test connector including a base with a cover moveably mounted thereupon;

an electronic package installed upon the test connector;

a heat sink located above the electronic package;

a supporting member located on and being immovable relative to the printed circuit board;

a pressing member fastened to the supporting member with biasing means abutting against the heat sink to urge said heat sink toward the electronic package; and

an actuation system moveably mounted to the supporting member; wherein

said actuation system includes a cam, and via movement of said actuation

system, said cam either separate said heat sink from the electronic package or allows the heat sink to thermally contact the electronic package under a condition that said heat sink is constrained by said pressing member without withdrawal.